This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claim 1 (original): A method for modulating synaptic growth or plasticity comprising increasing the expression of a BNDF-inducible nucleic acid sequence or activity of a protein encoded thereby, so that synaptic growth or plasticity is stimulated.

Claim 2 (original): The method of claim 1 wherein the nucleic acid sequence which is inducible by BDNF comprises c-fos proto-oncogene (SEQ ID NO:1); early growth response protein 1 (SEQ ID NO:2); activity-regulated cytoskeletal associated (SEQ ID NO:3); fos-related antigen 2 (SEQ ID NO:4); G1/S-specific cyclin D1 (SEQ ID NO:5); voltage-gated potassium channel protein (SEQ ID NO:6); sodium channel, beta 1 subunit (SEQ ID NO:7); secretogranin II precursor (SEQ ID NO:8); somatostatin receptor 4 (SEQ ID NO:9); transmembrane receptor UNC5 homology (SEQ ID NO:10); neuropeptide Y (SEQ ID NO:11); VGF protein precursor (SEQ ID NO:12); or protein-tyrosine phosphatase 1B (SEQ ID NO:13).

Claim 3 (original): A method for identifying an agent which increases synaptic growth or plasticity comprising contacting a test cell with an agent and detecting activation of:

c-fos proto-oncogene (SEQ ID NO:1);
early growth response protein 1 (SEQ ID NO:2);
activity-regulated cytoskeletal associated (SEQ ID NO:3);
fos-related antigen 2 (SEQ ID NO:4);

G1/S-specific cyclin D1 (SEQ ID NO:5);
voltage-gated potassium channel protein (SEQ ID NO:6);
sodium channel, beta 1 subunit (SEQ ID NO:7);
secretogranin II precursor (SEQ ID NO:8);
somatostatin receptor 4 (SEQ ID NO:9);
transmembrane receptor UNC5 homology (SEQ ID NO:10);
neuropeptide Y (SEQ ID NO:11);
VGF protein precursor (SEQ ID NO:12); or
protein-tyrosine phosphatase 1B (SEQ ID NO:13)

nucleic acid sequences in the test cell wherein an increase in the activation of said nucleic acid sequences in the test cell contacted with the agent relative to the activation of said nucleic acid sequences in a test cell not contacted with the agent is indicative that said agent increases synaptic growth or plasticity.

Claim 4 (original): A method for treating a disease or condition associated with damaged or diseased synapses comprising administering an effective amount of an agent identified by the method of claim 3.